location, and application of the asbestos-containing product. (Tr. at 75.) Hanly

considered the share allocation approach a fair way to apportion liability and the share

allocation was adjusted regularly at the insistence of a member and after approval by the

CCR board. (Tr. at 74-76.)

Before paying a claim, the CCR generally required (1) evidence of asbestos-related

disease and (2) proof of exposure by an asbestos containing product of at least one CCR

member in plaintiff's complaint. (Tr. at 68.; see Pl. Exh 20 (1998 Settlement

Agreement); Pl. Exh. 52 (2000 Settlement Agreement).) A plaintiff did not have to

produce additional proof of exposure to every CCR member's product before settlement

was reached. (6/1/05 Hanlon Dep. at 28-29.) Rather, the CCR would attempt to settle a

claim for an amount that represented the total liability of all CCR members in the case.

(Id.) If there was a settlement, each named-CCR member would contribute its respective

share allocation. (Id. at 29-30.) Hanly testified that the CCR benefitted T&N because it

paid far less in aggregate since the cost savings and reduced settlement amounts, more

than offset the costs of paying claims that T&N would not have paid had it not been a

member of the CCR. (Tr. at 77-78.) Nevertheless, T&N had a substantial share

allocation attributed to it; from 1991 onward, T&N garnered a seat on the CCR board

because it had one of the three largest liability shares in the CCR. (Tr. at 103.)

According to Hanly and Dr. Peterson, T&N's share allocation hovered around 20% for

certain occupational categories. (Tr. at 107 (Hanly); Tr. at 734 (Peterson).)

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In 1994, T&N and the other CCR members attempted to resolve their present and future personal injury liabilities through a class action settlement (the "Georgine class action"). See Georgine v. Amchem Prods., Inc., 157 F.R.D. 246 (E.D. Pa. 1994). Hanly testified that concept was to create a class action mechanism by which all future asbestos personal injury claims filed against any CCR member would be resolved pursuant to criteria set forth in the class action settlement agreement. The district court approved the class action settlement and entered an injunction that prohibited new claims from being filed against T&N. (Tr. at 67.) The matter was appealed to the Third Circuit and the Court of Appeals reversed the class certification. Georgine v. Amchem Prods., Inc., 83 F.3d 610 (3d. Cir. 1996). The Supreme Court affirmed the Third Circuit's decision and vacated the injunction in June 1997. Georgine v. Amchem Prods., Inc., 521 U.S. 591, 629 (1997). Hanly testified that T&N, and all of the CCR members, faced a flood of claims as a result of the four-year injunction being lifted. (Tr. at 67-68.) As a result, the CCR implemented the Strategic Settlement Program (the "SSP"), which sought to settle cases in large groups for the lowest amount CCR could negotiate. Notwithstanding this tactic, both Dr. Peterson and the PD Committee's estimation expert, Dr. Robin Cantor ("Dr. Cantor"), testified that T&N's settlement averages for mesothelioma from 1997 to 2000 rose from $43,000 to over $80,000. (See Pl. Exh. 4 at slide 9; PD Exh. 2 at 18.)

In the early 1990s, certain "corporate conduct" documents came to light during T&N's litigation with Chase Manhattan Bank that concerned the costs of asbestos removal from Chase's New York City skyscraper. (Tr. at 112-115 (Hanly).) Before trial,

Chase's lawyers microfilmed a million T&N files at its Manchester England record repository. In essence, these documents traced T&N's corporate legacy as the asbestos industry leader in the United Kingdom, its early involvement in industrial hygiene, and its corporate knowledge and activities once it became known that asbestos exposure was lethal. Hanly testified that during the 1990s these documents were widely dispersed both among the legal profession, and also to the public. (Tr. at 111-115 (Hanly).) In, 2002, the content of the T&N documents was captured by a British journalist, Geoffrey Tweedale in his book entitled <u>Magic Mineral to Killer Dust: Turner & Newall and the Asbestos Hazard</u>. The parties dispute the effect that these events will have on T&N's future indemnity costs; however, it is not illogical to conclude, as Dr. Peterson does, that the document disclosure and the Tweedale book both impacted T&N's public notoriety as a significant contributor to the United States' and United Kingdom's asbestos crises.

In January 2001, T&N left the CCR for several reasons: its share allocation had increased; the number of members had decreased (from 20 to 10), and other members were filing for bankruptcy. (Tr. at 78-79 (Hanly).) The PD Committee argues that these reasons contradict Federal Mogul's public statements in 2001, whereby it stated that T&N was leaving the CCR because it believed it needed a change in litigation strategy. (PD Exh. 94 at slide 31.) The PD Committee asserts that T&N's settlement experience in the CCR should be given full weight in consideration of what T&N's indemnity costs should be as of the Petition Date. Indeed, there is no testimony in the record that CCR members received "volume discounts" by virtue of their membership, or that plaintiffs received a

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lower aggregate amount from a collective settlement than they would have received through individual settlements. (See Tr. at 1021-22 (Cantor).)

4.   Post-CCR

In the nine months prior to filing bankruptcy, January 1 to October 1, 2001, T&N found itself facing thousands of claims. Hanly testified that T&N's departure from the CCR coincided with the bankruptcy filings of a number of major asbestos defendants, which he believed increased the costs and exposure of being a stand-alone defendant. (Tr. at 77-78.) During this time, Hanly testified that T&N had two requirements for settlement: (1) did the claim have enough evidence to survive a motion for summary judgment indicating exposure to a T&N or Keasbey asbestos containing product; and (2) did the claimant demonstrate evidence of an asbestos-related disease. (Tr. at 79.) T&N was able to have some success in defending itself; particularly, Hanly testified that mass consolidations of cases resulted in lower per case settlement averages. (Id.)

Among the factors considered by T&N when it reached a settlement value was: severity of claimant's disease, strength of exposure evidence, strength of medical evidence, identity of plaintiff's doctor supplying the diagnosis, identity of plaintiff's counsel, jurisdiction where case was pending, plaintiff's ability to get a trial date; plaintiff's economic damages, and the history of asbestos defendants in the jurisdiction. (Tr. at 79-80, 92.) Hanly testified that T&N was aware of the credibility of many of the plaintiff medical doctors in the nonmalignant cases and priced these cases accordingly. (Tr. at 80.) Similar to its CCR membership, T&N paid out a several share of its liability

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and did not factor in what a claimant might or might not get from another defendant. (Tr. at 76-77.) Hanly testified that the above mentioned factors were the criteria to price cases; thus, the threat of punitive damages were not factored into the equation. (Tr. at 92, 102.) T&N has only faced one punitive damages verdict in its history (March 2001), which was bonded and paid in 2004 and not included in the T&N database. (Tr. at 92.) Importantly, neither estimation expert considered punitive damages in arriving at their settlement averages.

After the CCR, T&N resolved some nonmalignant claims (most in a settlement of 10,700 premises liability claims pending in Mississippi for $300 each), but largely focused its litigation efforts on the mesothelioma claims. (Tr. at 83.) Hanly testified that the Mississippi settlement was not indicative of the exposure that T&N now faced as a stand-alone defendant. Ultimately, Hanly believed that the looming personal injury liability is what caused T&N and the Federal Mogul companies to seek Chapter 11 protection. (Id.)

E. T&N's Litigation Experience in the United Kingdom

Ms. Crichton testified as to the tactics used to defend lawsuits filed in the United Kingdom. The great majority of United Kingdom claims were brought by T&N employees on the legal theory that T&N did not provide a reasonably safe work environment. Crichton called these cases indefensible because it was not difficult for a claimant to prove that T&N breached its duty towards its employees. (Tr. at 160 (Crichton).) Similar to the early litigation strategy in the United States, T&N attempted to

settle legitimate claims as soon as possible. (Tr. at 152, 156.) Also similar was the requirement that a claimant demonstrate a disease caused by asbestos exposure and that they were exposed through the fault of T&N. (Tr. at 159.) To prove the first requirement, T&N required that claimants provide a report from a doctor who specialized in asbestos diseases. (Tr. at 164.) To satisfy the second requirement, T&N would look to its employment records for employee claims, or rely on the claimants statement, witnesses, and T&N documents for non-employee and product liability claims. (Tr. 162-163.)

F. Estimations of Liability

Both parties offered an expert who estimated T&N's aggregate asbestos personal injury claims in the United States, both for (i) claims pending, but unpaid as of the Petition Date; and, (ii) the present value of future claims that can be expected to be filed after the Petition Date. Plaintiffs retained Dr. Mark Peterson, a lawyer with a doctorate in experimental social psychology, who is associated with the RAND Institute, and for over the last 20 years has been involved in studying the civil litigation system and the mass tort process in the United States. Dr. Peterson has been recognized as an expert in numerous asbestos estimation proceedings including: Eagle-Picher, National Gypsum, Babcock & Wilcox, Armstrong, Western Asbestos, H.K. Porter, E.J. Bartells Co., and Raytech. (See Pl. FOF ¶ 71.)

The PD Committee proffered Dr. Robin Cantor, an economist who specializes in econometrics, statistical modeling and risk analysis. (Tr. at 834.) Dr. Cantor has

conducted numerous forecasts and statistical analysis for asbestos, environmental, and antitrust clients, as well as consulted in other asbestos estimation matters. (Tr. at 840.) Dr. Cantor currently serves as a Director of the Financial Insurance & Claims Services Practice of Navigant Consulting, Inc. ("NCI"), and leads NCI's Liability Estimation & Insurance Coverage Analysis practice. This group has responsibility for conducting asbestos liability estimates on behalf of a variety of clients, including, at present, six bankruptcy proceedings and five other asbestos-related matters. (PD Exh. 3; Tr. at 843.) Until this trial, Dr. Cantor had never been qualified as an expert on asbestos liability forecasting. (See Tr. at 856.)

Dr. Peterson calculated two aggregate estimates for T&N's pending and future claims. The first is based on no increase in future claims, the second is based on an increase in future claims. Dr. Peterson's "No Increasing" projection for all pending and future claims put T&N's United States liability at approximately $8.2 billion at net present value. His "Increasing" projection, his preferred projection, placed T&N's United States liability at $11.1 billion. (Tr. at 523.) In addition, he estimated T&N's liability for present and future claims in the United Kingdom to be £229 million or (approximately $400 million USD). (Tr. at 561.) Dr. Cantor, in contrast, placed the net present value of all pending and future United States claims at $2.5 billion. (Tr. at 878-79.) Neither the PD Committee nor Dr. Cantor estimated the aggregate liability in the United Kingdom because the claims "are only a small fraction of the United States claims, and will not significantly affect recoveries for property damage claimants." (See PD Exh. 2 at 4-5.)

1.   Pending United States Claims

It is undisputed that there are 396,649 total records in the T&N Database. (PD Exh. 2.) Dr. Peterson and Dr. Cantor agree on the premise that total liability is derived by the formula:

[Number of Claims] X [Average Settlement Value] X [Percent Paid] =
TOTAL LIABILITY

Dr. Peterson looked to the T&N Database[9] and determined the pending claims for each type of disease: mesothelioma ("Meso"), lung cancer ("Lung"), other cancer ("Othc"), and nonmalignant disease ("Nonm"). (Tr. at 409-410.) Also, there was a number of unspecified claims ("Unsp"). The unspecified claim is most frequent among recently filed claims, and Dr. Peterson reallocated the number of pending claims based on the percentage of those open claims actually manifested into the disease that was originally alleged. (See Pl. Exh. 4 at slide 6.) Thus, what was originally 30,739 pending "Unsp" got reallocated, by disease based upon data in the T&N Database. (Id. at 7.) The total number of pending claims after reallocation is as follows:

Description	Meso	Lung	Othc	Nonm	Unsp	TOTAL
Realloc. Number Pending	3,002	4,891	2,080	119,776	4,487	134,235

(Id.)

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[9] The T&N Database collectively refers to the database maintained by CCR and the database that was maintained by T&N after it left the CCR until the Petition Date.

Dr. Cantor determined that there were 108,240 "Open Claims." (PD Exh. 2 at 9.) She segmented out 29,862 claims, the Settled But Not Yet Documented and Settled But Not Yet Paid claims, and included these in her closed claims amount. (Id.) If, however, these unpaid claims were included in her "Open Claims" number, the total would be 138,102. (See PD 2 at 9.) Dr. Cantor used the 108,240 number, and based upon the T&N Database, assigned each claim a disease category:

Meso	Lung	Othc	Asbestosis	Pleural	Unknown	Other	TOTAL
1,703	2,188	741	55,166	3,054	44,455	933	108,240

(Id. at 10.) Dr. Cantor imputed data by "matching data" to the Johns-Manville Trust, or by using a transition matrix similar to that used by Dr. Peterson. (Id. at 10-11.) In sum, both experts place the number of unpaid, unresolved pending claims at approximately 135,000; however, Dr. Cantor uses the 108,240 number in her pending claims estimation.

2.   Settlement Averages and Dismissal Rates

The second variable in the estimation formula is the settlement averages per disease. Each expert sought to estimate what the average cost to T&N would have been, by claim and disease category, had it not filed for bankruptcy. Dr. Peterson followed a four-step approach in estimating T&N's settlement values. (See Pl. Exh. 4 at slide 13.) First, he used the information in the T&N Database to calculate the historical settlement values for mesothelioma during the two years prior to the Petition Date (what he terms a "calibration period"). (Tr. at 427.) Because the database included both CCR and post-CCR settlement values, Dr. Peterson testified that weighted consideration had to be given

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to those settlements where T&N was a stand-alone defendant. (Tr. at 416-417.) Dr.

Peterson, demonstrated this disparity in mesothelioma settlements below:

Period	Average Meso Payment (in 2001 dollars)	Cumulative Percent Change
1997 (CCR)	$43,635	NA
1998 (CCR)	$46,608	107%
1999 (CCR)	$60,936	140%
2000 (CCR)	$86,606	198%
2001 (post-CCR)	$138,939	318%

(See Pl. Exh 4 at slide 12.) To forecast a trend, he then calculated the estimated rate of

continuing increase in the T&N settlement values by calculating the average of the 1997-

1998 Meso settlements ($45,974--weighted for the number of settlements in each year)

and the average of the 2000-2001 Meso settlements ($98,267–weighted), which resulted

in a 214% increase. (Pl. Exh. 2 at 14.) He applied this rate to the $98,267 (the average

for 2000-2001) and determined that the mesothelioma average was $210,291. (See Pl.

Exh 4 at slide 15; Tr. at 427.) He then determined the relative average settlement values

for all other diseases using T&N's historic settlement ratios between mesothelioma and

the other disease (Tr. at 434-435), and compared these averages with the Owens-Corning

and Babcox & Wilcox settlement averages. (See Pl. Ex. 4 at slide 17.) After applying

these ratios, the settlement averages were: Lung $35,013: Othc $15,509, and Nonm

$7,991, which he demonstrated were below the settlements observed in Owens-Corning

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and <u>Babcox & Wilcox</u>. (<u>Id.</u>) Dr. Peterson then compared these values to the Trust

Distribution Procedure's Scheduled Values and determined that for simplicity these

values should be used because they are relatively close, in fact lower, to the settlement

averages: Meso $200,000; Lung $32,000; Othc $14,750; and Nonm $7,000. (See Pl. Ex.

4 at slide 18.) Finally, he calculated the average claim resolution amount, which is the

product of the percent of claims paid by the average settlement amount (in 2001 dollars).

(<u>See</u> Pl. Ex. 4 at slide 24.)

Total pending liability was therefore determined by multiplying the number of

pending claims for each disease category by the average resolution amount for each

category, which Dr. Peterson concluded was $1.4 billion, as depicted below:

Disease	Reallocated Claims	Avg. Resolution	Indemnity ($mill)
Meso	3,002	$163,711	$491.5
Lung	4,891	$27,630	$135.2
Othc	2,080	$13,170	$27.4
Nonm	119,776	$6,242	$747.6
Unsp	4,487	$0	$0
Total	**134,236**	**NA**	**$1,402**

(Pl. Exh. 4 at slide 25.)

Dr. Cantor, on behalf of the PD Committee, used a weighted average of settlement

values from the four years preceding T&N's bankruptcy (what she terms the "four year

rolling average") as the benchmark for establishing the settlement averages by disease

category. (Tr. at 883.) She observed no increasing trend in claim values for any diseases

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over that four year period except for mesothelioma, which had an 18.3% annual increase.

(Tr. at 884.) Hence, Dr. Cantor did not compute relative settlement averages on the other

asbestos-related diseases, but rather, calculated the actual estimated average settlement

value by disease for the four year period 1998-2001. Below are the settlement averages

based upon her four-year rolling average:

	Meso	Lung	OthC	Asbestosis	Pleural	Unknown
1998-2001	$68,866	$13,011	$5,664	$2,600	$915	$4,585

(See PD Exh. 2 at 18.) She used her base estimate, and then stepped up the mesothelioma

averages for each of the first five years after the Petition Date; that is, ranging from

$81,502 in 2002 and $159,886 in 2007. (Tr. at 895-6.) After year five, Dr. Cantor uses

the $159,886 value for mesothelioma for every year of her forecast. (PD Exh. 2 at 31.)

Dr. Cantor then computed the dismissal rate during the 1998-2001 base period.

Although there were slight changes by disease, she concluded that the acceptance rate

was generally 90 percent. (PD Exh. 2 at 33-34.) Dr. Cantor then took 10 percent off the

108,240 "Open Claims," resulting in 96,650 compensable claims, and multiplied this

number by the settlement averages, for a total of $420.5 million net present value. (PD

Exh. 2 at 38.) The settled but not yet decided and the settled but not yet paid claims

totaled $139.9 million. Therefore, Dr. Cantor's aggregate estimate for unpaid pending

claims is $560.4 million.

        3.   Future United States Claims

In forecasting the number of future claims, each expert had to use epidemiological

models to predict disease incidence in the population, and then make adjustments based

on the T&N data. Dr. Peterson based his projections on the Nicholson study, and

considered the observed trends in malignant claiming rates, the overall changes in the

asbestos litigation landscape, the increased publicity of T&N, and the bankruptcies of

other prominent asbestos defendants. (Tr. at 487.)

Dr. Peterson then calculated T&N's historic propensity to sue– the percentage of

people who actually filed (or will file) a claim against T&N – by dividing the number of

people who actually filed a claim against T&N for mesothelioma by the number of overall

mesothelioma deaths as predicted by the Nicholson model for that same year. (Tr. at 499-

500; Pl. Exh. 2 at 27.) The propensity to sue calculation was derived from his two-year

calibration period (or base period). (Tr. at 504.) Dr. Peterson made two alternate

assumptions: (1) a No-Increasing projection, which assumed the propensity to sue would

remain unchanged in future years; and, (2) an Increasing propensity projection, which

assumed that the propensity to sue T&N would increase during 2002 through 2006, in

accordance with the trend in claims filings observed in the years immediately prior to the

Petition Date, and then level off thereafter. (Tr. at 504.) The Increasing model is Dr.

Peterson's preferred projection. (Tr. at 505.) Finally, Dr. Peterson used the formula:

[Propensity to Sue] X [Incidence in Future Year] = Projected Future Claims

There is no comparable peer-reviewed study, like the Nicholson study, which

predicts the incidence of nonmalignant asbestos-related disease. (Tr. at 491-92.) Dr.

Peterson explained that these diseases are progressive diseases, and therefore, claims

projections cannot be derived from epidemiological evidence. (Pl. Exh. 2 at 35.)

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Nevertheless, Dr. Peterson states that relationship between cancer and nonmalignant claims filings is "one of the most common patterns in asbestos litigation." (Id. at 36.) Thus, Dr. Peterson calculated the ratio between the number of cancer claims and the number of nonmalignant claims filed against T&N in 2000. (Tr. at 492.) He did not use the 2001 data because it was 50 percent greater than the 2000 ratio. (Pl. Exh. 2 at 36.) He derived a nonmalignant multiplier of 10.19, which he used to predict the number of nonmalignant claims for each future year. (Tr. at 514.) To calculate the total value of future United States claims, Dr. Peterson used the same settlement averages per disease that were used in the pending claims calculation. (Tr. at 520.)

As to nonmalignant claims, Dr. Peterson also asserts two assumptions. In his Increasing assumption, which coincides with his Increasing model for propensities to sue, he assumed that the ratio of nonmalignance to cancer claims would be 11 percent greater than the base period. (Pl. Exh. 2 at 36.) This increase was based upon the general experience of asbestos defendants in the 1990s, specifically using the filing experience of the Manville and UNR trusts. (Id.) His no increase assumption assumes that the ratio of nonmalignant cancers will be similar to that of his 2000 base period. (Id.)

Combining his increasing propensity to sue, and corresponding increase in nonmalignant claim filings, Dr. Peterson predicted that T&N would face 1,088,440 future asbestos personal injury claims. (Id. at 38, Table 20.) Under his No Increasing model, Dr. Peterson predicted the number of future claims at 706,779. (Id.) Dr. Peterson assumed that future settlements would occur two years after the claims were filed, a 2.5

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percent inflation rate (a historical inflation rate over the last decade), and a 5.02 percent

"risk-free" rate of return to discount the future costs to net present values. (Tr. at 520.)

The inflation and interest rates were obtained by L. Tersigni Consulting, the financial

experts for the ACC. (See Pl. Exh. 2 at 39.) Thus, he estimated that the aggregate future

liability for the United States claims would be $9.7 billion (Increasing) and $6.8 billion

(No-Increasing).

Dr. Cantor did not use the Nicholson study, but used a model developed by her

consulting firm (the "NCI model") to determine the incidence of mesothelioma deaths in

the eight industries in which the use of Limpet was primarily involved. (PD. Exh. 2 at 20;

Tr. at 965-66.) She then applied a dose-response formula developed by the Occupational

Safety and Health Administration ("OSHA"), to the exposed population to estimate the

future annual incidence of mesothelioma deaths. (PD Exh. 2 at 24;Tr. at 968.) Incidence

of other malignant diseases were determined by using a report created by KPMG Peat

Marwick (hereinafter the "KPMG model"). (See PD Exh. 2 at 25.)

For nonmalignant claims, Dr. Cantor derived a ratio from the compensable

nonmalignant claims to compensable malignant claims from her four-year base period

(1998-2001), which was 12.9 to 1. (Id. at 26.) She did not escalate this rate for the future

claims because she testified there was no evidence in the T&N Database, or in the

experience of other asbestos trusts to support an increase in nonmalignant claims filings.

(Id. at 26-27.) Dr. Cantor did conduct two sensitivity analyses. First, she factored in the

other three Nicholson industry areas: auto mechanics, primary asbestos manufacturing

and secondary asbestos manufacturing, which resulted in a modest increase in her estimate from $2.485 to $2.586 billion. (PD Exh. 2 at 46.) Second, she used the KPMG incidence tables for mesothelioma, instead of the NCI model, and came to a nominally higher estimate of $2.592 billion. (PD Exh. 2 at 47.)

Like Dr. Peterson's "propensity to sue" analysis, Dr. Cantor conducted "compensability" analysis, which is calculated as the sum of compensated closed claims and the estimate of compensable pending claims during her four-year base period divided by the incidence of disease mortality over the same period. (PD. Exh 2 at 34.) Dr. Cantor first observed that 72% of compensated closed and pending cases in the T&N database had death year information. (Tr. at 974.) She then imputed death year information for 28% of claimants based on "a set of ordered rules and assumptions about the relationship of the filing date to the death date." (Id.) She calculated the compensability rates for mesothelioma (36.9%), lung cancer (19.5%) and other cancers (28.4%). (Pl. Exh. 2 at 37.) Under this "death year" approach, the compensability rate from the four-year base period was applied to future incidence of specific diseases, resulting in a forecast of 372,907 claims from the Petition Date till the year 2054. (Id. at 36-39.)

Dr. Cantor employed several sensitivities that resulted in a range of $1.9 billion to $3.4 billion for her aggregate estimate. She was of the opinion that changes in state laws, in particular Mississippi, Texas and Ohio, support her relatively lower settlement averages. (See PD Exh. 3.) Further, she compared the experiences with H.K. Porter and the Manville Trust, which indicated that the number of asbestos filings is trending downward, and believes that data supports her relatively lower estimate.

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